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APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.	CONFIRMATION NO.
10 019,849	11.01.2001	Roland Dieterle	870-003-139	1959

4955 7590 06.04.2003

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EXAMINER

MILLER, PATRICK L

ART UNIT PAPER NUMBER

2837

DATE MAILED: 06/04/2003

Please find below and/or attached an Office communication concerning this application or proceeding.

Office Action Summary

Application No.

10/019,849

Applicant(s)

DIETERLE ET AL.

Examiner

Patrick Miller

Art Unit

2837

-- The MAILING DATE of this communication appears on the cover sheet with the correspondence address --

Period for Reply

A SHORTENED STATUTORY PERIOD FOR REPLY IS SET TO EXPIRE 3 MONTH(S) FROM THE MAILING DATE OF THIS COMMUNICATION.

- Extensions of time may be available under the provisions of 37 CFR 1.136(a). In no event, however, may a reply be timely filed after SIX (6) MONTHS from the mailing date of this communication.
- If the period for reply specified above is less than thirty (30) days, a reply within the statutory minimum of thirty (30) days will be considered timely.
- If NO period for reply is specified above, the maximum statutory period will apply and will expire SIX (6) MONTHS from the mailing date of this communication.
- Failure to reply within the set or extended period for reply will, by statute, cause the application to become ABANDONED (35 U.S.C. § 133).
- Any reply received by the Office later than three months after the mailing date of this communication, even if timely filed, may reduce any earned patent term adjustment. See 37 CFR 1.704(b).

Status

- 1) ☐ Responsive to communication(s) filed on _____.
- 2a) ☐ This action is **FINAL**. 2b) ☒ This action is non-final.
- 3) ☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11, 453 O.G. 213.

Disposition of Claims

- 4) ☒ Claim(s) 42-82 is/are pending in the application.
- 4a) Of the above claim(s) _____ is/are withdrawn from consideration.
- 5) ☐ Claim(s) _____ is/are allowed.
- 6) ☒ Claim(s) 42-82 is/are rejected.
- 7) ☐ Claim(s) _____ is/are objected to.
- 8) ☐ Claim(s) _____ are subject to restriction and/or election requirement.

Application Papers

- 9) ☐ The specification is objected to by the Examiner.
- 10) ☒ The drawing(s) filed on 01 November 2001 is/are: a) ☒ accepted or b) ☐ objected to by the Examiner.
- Applicant may not request that any objection to the drawing(s) be held in abeyance. See 37 CFR 1.85(a).
- 11) ☐ The proposed drawing correction filed on _____ is: a) ☐ approved b) ☐ disapproved by the Examiner.
- If approved, corrected drawings are required in reply to this Office action.
- 12) ☐ The oath or declaration is objected to by the Examiner.

Priority under 35 U.S.C. §§ 119 and 120

- 13) ☒ Acknowledgment is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d) or (f).
- a) ☒ All b) ☐ Some * c) ☐ None of:
1. ☐ Certified copies of the priority documents have been received.
2. ☐ Certified copies of the priority documents have been received in Application No. _____.
3. ☒ Copies of the certified copies of the priority documents have been received in this National Stage application from the International Bureau (PCT Rule 17.2(a)).
- * See the attached detailed Office action for a list of the certified copies not received.
- 14) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. § 119(e) (to a provisional application).
- a) ☐ The translation of the foreign language provisional application has been received.
- 15) ☐ Acknowledgment is made of a claim for domestic priority under 35 U.S.C. §§ 120 and/or 121.

Attachment(s)

- 1) ☒ Notice of References Cited (PTO-892)
- 2) ☐ Notice of Draftsperson's Patent Drawing Review (PTO-948)
- 3) ☒ Information Disclosure Statement(s) (PTO-1449) Paper No(s) 2
- 4) ☐ Interview Summary (PTO-413) Paper No(s) _____
- 5) ☐ Notice of Informal Patent Application (PTO-152)
- 6) ☐ Other:

DETAILED ACTION

Claim Rejections - 35 USC § 112

The following is a quotation of the second paragraph of 35 U.S.C. 112:

The specification shall conclude with one or more claims particularly pointing out and distinctly claiming the subject matter which the applicant regards as his invention.

1. Claims 42-82 are rejected under 35 U.S.C. 112, second paragraph, as being indefinite for failing to particularly point out and distinctly claim the subject matter which applicant regards as the invention.
2. The claims are generally narrative and indefinite, failing to conform with current U.S. practice. They appear to be a literal translation into English from a foreign document and are replete with grammatical and idiomatic errors.
 - The claim sentence structure is hard to follow and the nomenclature is unclear. The claims have many instances of lack of antecedent basis and duplicity of words (same item preceded by "a" or "an").
 - Examples are as follows:
 - Claim 46 cites, "a frequency signal." This term is initially cited in claim 42 as "a rotation speed frequency signal." It is unclear if the two terms are the same.
 - Claim 55 cites, "the rotation speed datum." There is a lack of antecedent basis for this term.
 - It is unclear if claim 58 is meant to be dependent upon claim 46 (which it now is).
 - Claims not cited as examples have similar clarity problems.

Double Patenting

The nonstatutory double patenting rejection is based on a judicially created doctrine grounded in public policy (a policy reflected in the statute) so as to prevent the unjustified or improper timewise extension of the "right to exclude" granted by a patent and to prevent possible harassment by multiple assignees. See *In re Goodman*, 11 F.3d 1046, 29 USPQ2d 2010 (Fed. Cir. 1993); *In re Longi*, 759 F.2d 887, 225 USPQ 645 (Fed. Cir. 1985); *In re Van Ornum*, 686 F.2d 937, 214 USPQ 761 (CCPA 1982); *In re Vogel*, 422 F.2d 438, 164 USPQ 619 (CCPA 1970); and, *In re Thorington*, 418 F.2d 528, 163 USPQ 644 (CCPA 1969).

A timely filed terminal disclaimer in compliance with 37 CFR 1.321(c) may be used to overcome an actual or provisional rejection based on a nonstatutory double patenting ground provided the conflicting application or patent is shown to be commonly owned with this application. See 37 CFR 1.130(b).

Effective January 1, 1994, a registered attorney or agent of record may sign a terminal disclaimer. A terminal disclaimer signed by the assignee must fully comply with 37 CFR 3.73(b).

3. Claims 62-69 are rejected under the judicially created doctrine of obviousness-type double patenting as being unpatentable over claims 14-21 of U.S. Patent No. 6,496,786 in view of Hokari (5,737,216).

- Claim 62 of the application differs from claim 14 of the patent in that the application does not cite the number of subsequent events sensed by the counter is integrally divisible by the number of fixed events. Further, the patent does not disclose using the rotation speed datum in regulating rotation speed.
- Hokari discloses dividing the number in a counter by the number of events to get a rotation speed and using these data to regulate rotation speed (Col. 5, lines 1-14 and 35-45). Hokari's motivation to do such is to correct the rotation speed information. This provides the advantage of reducing rotation variation in high frequency regions (Col. 6, lines 23-32).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention that the device as cited in the application could be modified as described

Art Unit: 2837

above, thereby providing the advantage of reducing rotation variation in high-frequency regions, as taught by Hokari.

- Claim 63 of application is substantially the same as claim 15 of aforementioned patent.
- Claim 64 of application is substantially the same as claim 16 of aforementioned patent.
- Claim 65 of application is substantially the same as claim 17 of aforementioned patent.
- Claim 66 of application is substantially the same as claim 18 of aforementioned patent.
- Claim 67 of application is substantially the same as claim 19 of aforementioned patent.
- Claim 68 of application is substantially the same as claim 20 of aforementioned patent.
- Claim 69 of application is substantially the same as claim 21 of aforementioned patent.

Claim Rejections - 35 USC § 102

The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless –

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States;

(e) the invention was described in-

(1) an application for patent, published under section 122(b), by another filed in the United States before the invention by the applicant for patent, except that an international application filed under the treaty defined in section 351(a) shall have the effect under this subsection of a national application published under section 122(b) only if the international application designating the United States was published under Article 21(2)(a) of such treaty in the English language; or

(2) a patent granted on an application for patent by another filed in the United States before the invention by the applicant for patent, except that a patent shall not be deemed filed in the United States for the purposes of this subsection based on the filing of an international application filed under the treaty defined in section 351(a).

4. Claim 71-73 are rejected under 35 U.S.C. 102(b) as being anticipated by Miyako et al (5,780,984).

- Miyako et al (5,780,984) disclose a method for controlling the rotation speed of a motor which has a rotor (Col. 3, lines 50-60) and a rotation speed controller (Fig. 2, #13).

comprising the steps of: generating a rotation speed frequency signal that is proportional to the rotor speed (Col. 4, lines 55-57); generating a target value frequency signal (Col. 5, lines 21-34); controlling rotation speed of the rotor in such a way that the rotation speed frequency signal and the target value frequency signal are at a defined ration (eqn (1): $N=\text{target}$, $P=\text{actual rotation speed dependent upon pulse counter}$).

- With respect to claims 72 and 73, the ratio between the target and actual frequencies is influenced by time and pulse number parameters (Fig. 4, S13) and the ratio is defined in the controller (Fig. 2, 13b does calculations with parameters P , i , t).

Claim Rejections - 35 USC § 103

The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 42 and 43 are rejected under 35 U.S.C. 103(a) as being unpatentable over Miyako et al (5,780,984) in view of Hunter (6,097,564).

- With respect to claim 42, Miyako et al disclose a method of regulating the rotation speed of a motor (Col. 1, lines 43-48), where the motor sends an actual speed signal in the form of a rotation speed frequency signal (Col. 4, lines 3-5), which is toward a target rotation speed (Col. 5, lines 31-34); the method comprising the steps of: obtaining a first frequency value during a first time segment (Col. 6, lines 7-12); obtaining a target frequency value during a second time segment (Col. 6, lines 12-18); and the regulating

the actual motor speed toward a target rotational speed according to a predefined mathematical relationship (Col. 6, lines 18-27).

- Miyako et al do not disclose a digital rotation speed controller.
 - Hunter discloses a digital rotation speed controller. Hunter's motivation to provide such is to combine the digital reference angular velocity with the velocity feedback (Col. 13, lines 30-45). This provides the advantage of compensating for manufacturing tolerances, operating history, and other time dependent physical characteristics (Col. 14, lines 60-67).
 - Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the method and system of Miyako et al with a digital rotation speed controller, thereby providing the advantage of compensating for time dependent characteristics, as taught by Hunter.
 - With respect to claim 43, Miyako et al disclose measuring the time in order to get the actual and target rotational speeds (first and second numerical frequencies) (Col. 6, lines 12-18).
6. Claim 44 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyako et al and Hunter as applied to claim 42 above, and further in view of Toyomura (6,037,734).
- Miyako et al and Hunter do not disclose measuring a time interval between edges of the frequency signal.
 - Toyomura discloses measuring intervals between adjacent edges of the encoder output. Toyomura's motivation to do such is to produce a rotation target value. This provides the

Art Unit: 2837

advantage of obtaining the control target value corresponding to the scatter of the encoder (Col. 6, lines 1-15).

- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device of Miyako et al and Hunter by measuring the interval between frequency signal edges, thereby providing the advantage of obtaining the control target value corresponding to the scatter of the encoder, as taught by Toyomura.

7. Claim 74 is rejected under 35 U.S.C. 103(a) as being unpatentable over Miyako et al (5,780,984) as applied to claims 71-73 above, and further in view of Hokari (5,737,216).

- Miyako et al do not disclose storing at least one parameter in a nonvolatile memory.
- Hokari discloses a storage means for storing parameters. Specifically, the motivation to store parameters is for storing rotation speed information. This provides the advantage of having data, such as predetermined weights and segments readily available for calculations (Col. 5, lines 5-6 and 15-24).
- Therefore, it would have been obvious to one having ordinary skill in the art at the time of the invention to modify the device and method of Miyako et al as described above, thereby providing the advantage of readily available data, as taught by Hokari.

Allowable Subject Matter

8. Claims 45, 46-61 (assuming claims 58-61 are dependent from claim 46), 70, and 75-82 would be allowable if rewritten to overcome the rejection(s) under 35 U.S.C. 112, second paragraph, set forth in this Office action and to include all of the limitations of the base claim and any intervening claims.

Art Unit: 2837

- With respect to claim 45, the Prior Art does not disclose using an identical time standard for obtaining the first and second numerical frequency values, respectively.
- With respect to claim 46, the Prior Art does not disclose terminating measurement of the frequency datum at a third predetermined instant.
- With respect to claim 70, this claim would be allowed should the Applicant file a terminal disclaimer, joining claim 62 to the previously cited patent.
- With respect to claim 75, the Prior Art does not disclose a method where only signal pulses and edges for ascertaining frequency; terminating frequency measurement after a third predetermined instant; and calculating a magnitude that characterizes the frequency.

Conclusion

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Patrick Miller whose telephone number is 703-308-4931. The examiner can normally be reached on 8:30-5:30.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Robert Nappi can be reached on 703-308-3370. The fax phone numbers for the organization where this application or proceeding is assigned are 703-872-9318 for regular communications and 703-872-9319 for After Final communications.

Any inquiry of a general nature or relating to the status of this application or proceeding should be directed to the receptionist whose telephone number is 703-306-3431.

Patrick Miller
Examiner
Art Unit 2837

pm
May 30, 2003

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